CLAIMS

1. A communication system comprising:

a processing means provided on a transmission line, performing a predetermined processing using a signal transmitted over said transmission line, monitoring a state of the related processing, and transmitting a monitoring result response signal indicating the result of said monitoring via said transmission line in response to a monitoring result request signal received via said transmission line, and

a monitoring result collecting means for transmitting said monitoring result request signal to said processing means via said transmission line and receiving said monitoring result response signal from said processing means, wherein

said monitoring result collecting means changes at least one of a transmission route of said monitoring result request signal to said processing means and a reception route of said monitoring result request signal from said processing means where it does not receive said monitoring result response signal after an elapse of a predetermined time after transmitting said monitoring result request signal and performs the transmission and reception of said monitoring result request signal and said monitoring result response signal by using the route

after the related change.

2. A communication system as set forth in claim 1, wherein

said monitoring result collecting means transmits said monitoring result request signal containing information indicating the reception route of said monitoring result response signal to said processing means, and

said processing means transmits said monitoring result response signal to said monitoring result collecting means via said reception route based on the received monitoring result request signal.

3. A communication system as set forth in claim 1, wherein said monitoring result collecting means transmits said monitoring result request signal to said processing means by a plurality of different transmission routes without waiting for a decision of reception of said monitoring result response signal.

4. A communication system as set forth in claim 1, wherein said processing means transmits said monitoring result response signal to said monitoring result collecting means by a plurality of different reception routes in response to said received monitoring result request signal.

5. A communication system as set forth in claim 1,

wherein said monitoring result collecting means

stores useable routes among routes of said transmission line for transmitting and receiving said monitoring result request signal and said monitoring result response signal in advance,

selects one route among the related stored useable routes, and

performs the transmission and reception of said monitoring result request signal and said monitoring result response signal by using the related selected route.

6. A communication apparatus performing a predetermined processing using a signal transmitted over a transmission line, transmitting a monitoring result request signal to a processor for monitoring the state of the related processing via said transmission line, and receiving a monitoring result response signal from said processor via said transmission line, wherein,

when said monitoring result response signal is not received after an elapse of a predetermined time from the transmission of said monitoring result request signal, at least one of a transmission route of said monitoring result request signal to said processor and a reception route of said monitoring result response signal from said processor is changed, and the transmission and

reception of said monitoring result request signal and said monitoring result response signal are carried out by using the route after the related change.

7. A communication apparatus as set forth in claim 6, which transmits said monitoring result request signal containing information indicating the reception route of said monitoring result response signal to said processor and receives said monitoring result response signal from said processor via said reception route.

8. A communication apparatus as set forth in claim 6, which transmits said monitoring result request signal to said processing means by a plurality of different transmission routes without waiting for a decision of reception of said monitoring result response signal.

9. A communication apparatus as set forth in claim 6, which

stores in advance useable routes among routes of said transmission line for transmitting and receiving said monitoring result request signal and said monitoring result response signal,

selects one route among the related stored useable routes, and performs the transmission and reception of said monitoring result request signal and said monitoring result response signal by using the related selected route.

10. A communication method comprising the steps of

performing predetermined processing using a signal transmitted a transmission line,

transmitting a monitoring result request signal to a processor for monitoring a state of the related processing via said transmission line,

changing at least one of a transmission route of said monitoring result request signal to said processor and a reception route of said monitoring result response signal from said processor when said monitoring result response signal is not received after an elapse of a predetermined time from the transmission of said monitoring result request signal, and

performing the transmission and reception of said monitoring result request signal and said monitoring result response signal by using the route after the related change.

11. A communication method as set forth in claim 10, further comprising the steps of

transmitting said monitoring result request signal containing information indicating the reception route of said monitoring result response signal to said processor and

receiving said monitoring result response signal from said processor via said reception route.

12. A communication method as set forth in claim 10, further comprising the step transmitting said monitoring result request signal to said processor by a plurality of different transmission routes without waiting for a decision of reception of said monitoring result response signal.

13. A communication method as set forth in claim 11, further comprising the steps of

specifying in advance useable routes among routes of said transmission line for transmitting and receiving said monitoring result request signal and said monitoring result response signal,

selecting one route among the related stored useable routes, and

performing the transmission and reception of said monitoring result request signal and said monitoring result response signal by using the related selected route.